

DRAWING NUMBER
RAY HOLD CORPORATION • RAY HOLD CORPORATION
REPORT OF INSPECTION

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CAMERON
GENERAL
M-2
130-487
DRAWING NUMBER 577.897
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HVAC SPECIFICATIONS

REQUIREMENTS

All mechanical work shall be free from defects in workmanship and materials for a period of one (1) year from date of final acceptance and shall meet all local and state codes. All defects which develop or are discovered within this period shall be repaired by the Contractor to the satisfaction of the Engineer at no additional cost.

GENERAL

- The Contractor shall examine the site of the proposed work to determine the existing conditions that may affect his work.
- It is the intention of the Contract Drawings and Specifications to call for finished work, tested and ready for operation. All materials shall be new and of first-quality.
- All material, work, incidental accessories or other details not shown but necessary to make the work complete and perfect and, in all respects, ready for operation, even if not particularly specified, shall be provided by the Contractor at no additional cost.
- The Contract Drawings are generally diagrammatic and are intended to convey the scope of work and indicate general arrangement of ductwork and pouches, and induction units. Existing ducts, pipes, utilities, etc. that are damaged during the construction period, whether or not due to the Contractor's negligence, shall be repaired or replaced by the Contractor and left in a condition satisfactory to the Engineer.
- The space around pipes, penetrating rated walls, shall not exceed $\frac{1}{2}$ " and shall be packed solid with thermafiber or equivalent. Perimeter shall be closed off by tight fitting metal escutcheons on both sides of this construction as required by Section C26-504.5 of the New York City Building Code.

WATER COOLED AIR CONDITIONING UNIT

- Furnish and install a packaged air conditioning unit. Unit shall be complete with temperature control, filters, compressor, evaporator coil, condenser water regulating valve and other system components required to provide proper air conditioning for the space designated on the Contract Drawings. Filter shall be Class I, UL listed; 45% efficiency.
- Air conditioning units shall be furnished with the following accessories:
a) Condensate Pump
b) Disconnect Switch
c) Wall mounted Control Box w/ THERMOSTAT
d) LIQUID STAT
- | Unit No. | CFM | Blower Motor H.P. | Total Cooling Capacity BTU's | Auxiliary Cooling Water (GPM) 85°F E.W.T. | Model No. | Total Weight (Net) |
|----------|-----|-------------------|------------------------------|---|-----------|--------------------|
| AC-1 | 700 | 1/4 | 19,500 | 3.7 | mm20M | 225 lbs. |

Air conditioning unit motor shall be 1-phase and 277 volts.

- The unit shall be factory run, tested and rated in accordance with ARI Standards.
- The air conditioning unit shall be complete with water regulator valve. Valve shall be rated for 150 psi working pressure.
- Unit shall be similar or equal to Liebert Corporation and rated at 150 lbs.

PIPING AND ACCESSORIES

- Piping Test Requirements (Auxiliary Cooling Water)
Operating Pressure : 150 psig
Operating Temperature : 80°F - 100°F
Hydrostatic Test Pressure : 1.5 x Operating Pressure
Duration of Test : Two (2) Hours
Isolate equipment, controls, instruments and valves from the piping system during hydrostatic tests.
- Piping and Fittings

System	Pipe	Fittings
Auxiliary Cooling Water	Black Steel Pipe, Conforming to ASTM A-53 Schedule 40, Grade B Black Seamless	2 1/2" cast iron screwed 250 lbs. class
A.C. Unit Condensate Drain	Copper ASTM A-88 Hard Temper Type (L)	Wrought Copper Solder Joint 5 ANSI B16.18

Vent auxiliary cooling water piping at all high points.
- Accessories
 - Unions for auxiliary cooling water service shall be similar and equal to 250 lbs. class, malleable iron with bronze seats, Grinnell Fig. 554, U.L. listed.
 - Nipples 6" length of less shall be extra heavy and the material shall be the same as the pipe.
 - Braided type flexible connector shall be Vibration Mounting and Control Inc. (VICO) Model MFP, Style NE, maximum 280 psig or approved equal.
- Soldered Joints
95-5 Tin antimony solder having a melting point greater than 450°F. Excess solder shall be removed while still in a molten state with a fillet left at the face of the fitting.

E. Strainers

Strainers shall be similar and equal to those manufactured by Specialty Co. Screwed "Y" strainers for pipes 2 1/2" and smaller. No. 11. The screens for the strainers shall be stainless steel and shall be provided with capped blowdown valves.

F. Sleeves and Escutcheons

Exposed piping passing through walls shall be fitted with chrome brass escutcheons with fastening set screws similar and equal to those manufactured by F & S Manufacturing Co., or Ritter Pattern Manufacturing Co., or approved equal.

C. Pipe Supports and Hangers

- All supports and parts shall conform to the latest requirements of the ANSI Code for pressure piping, B31.10, and MSS Standard 90.1.
- Hangers shall be manufactured by Grinnell Co., Central Blawnox Co., or approved equal.
- Pipe hangers, rods, inserts and clamps shall be those of the respective uses by the Underwriters' Laboratories, Inc.
- Unless otherwise specifically approved, hanger size and spacing shall be as follows:

Pipe Sizes	Maximum Hanger Spacing
1/2" to 1"	9 ft. o.c.
1 1/2" to 2 1/2"	9 ft. o.c.
2 1/2" to 4"	10 ft. o.c.

V. Valves

Type	Size	Pressure	Jenkins Fig. No.	Cran Fig. No.
Gate	Up to 2"	125 psi	47U	428-U
Gate	Up to 2"	150 psi	49L	431
Gate	Up to 2"	300 psi	280U	634E

- Balancing valves shall be non-lubricating eccentric plug type with adjustable stop. Valve shall be rated for 150 psi working pressure. Valves shall be as manufactured by Hoffman or approved equal.

I. Pipe and Valve Identification

- Provide and affix a set of approved adhesive bands identifying the system and direction of flow.
- Each set shall consist of one band on which the name of the system and direction of flow shall be printed in letters not less than 1 inch high.
- Bands shall be in colors as indicated below and shall conform to Standard A-13.1

System	Background
Auxiliary Cooled Water	Green

Adhesive bands shall be W.N. Brady Co., Seton Corp. or approved equal.

Threaded Joints

Steel pipe threaded joints shall be made tight using only a joint compound or tape, placed on the male thread only.

INSULATION FOR CONDENSATE WATER (DRAIN)

Insulation: 1/2" thick one-piece fiberglass, flame spread rating not more than "25"; smoke rating "50". (insulate valves and fittings).

CUTTING AND PATCHING

- Piping passing through walls shall have a trim opening cut necessary for the installation of a sleeve secured therein. The sleeve shall be 1/2" in diameter larger than the outside diameter of the pipe and the insulation passing through and of sufficient length to be finished wall surfaces.
- Piping passing through concrete floors shall have the opening cut 1/2" in diameter larger than the outside diameter of the pipe.
- Annular spaces between piping and sleeves or core drilled floors shall be packed with thermafiber and sealed to retain the insulation of the walls and floors with a non-hardening compound similar to Uniseal or Duxseal as manufactured by Johns-Manville Co.

EXECUTION

- All work in occupied tenant areas shall be performed on other working hours as directed by the Engineer.
- The Contractor shall notify the Engineer when shut-down of the system becomes necessary. Shut-down time shall be kept to a minimum.

SUBMITTALS

Submit for approval three (3) sets of Shop Drawings of piping, and three (3) sets of catalog cuts for air conditioning unit.